A NEW SPECIES OF PREDACEOUS MIDGE OF THE GENUS *BEZZIA* KIEFFER FROM ARGENTINA (*DIPTERA: CERATOPOGONIDAE*) [1]

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Midges of the genus *Bezzia* Kieffer are important predators of small invertebrates, mainly midges of the family Chironomidae, in all types of aquatic habitats all over the world (Thomsen, 1937; Chan and LeRoux, 1967; Downes, 1978). Unfortunately, very little is known of the systematics of the neotropical species or their life histories (Wirth, 1974; Wirth and Cavalieri, 1977). According to Wirth (1974) only 19 neotropical species have been described, and of these the inmature stages are known only of *Bezzia pulchripes* Kieffer (Mayer, 1959) and *B.setulosa* (Loew) (Thomsen, 1937; Wirth, 1952). Therefore we would like to move against this inertia by presenting descriptions of the adults and inmature stages of a new species which the senior author has collected in Argentina. Explanation of our terminology can be found in papers by Wirth (1952) and Forattini (1957).

Bezzia roldani new species
(Figs. 1–2)

A stout brownish species with whitish pollinosity on midportion of mesonotum; legs with somewhat obscure pale bands; fore femur without ventral spines; female wing deeply infuscated; halter knob brown.

Female. Wing length 2.25 mm; breadth 0.80 mm.

Head: Eyes broadly separated, by a distance equal to diameter of three ommatidial facets; vertex with numerous fine setae only. Antenna (fig. 1h) short, distal seg-

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ments not elongated; lengths of flagellar segments in proportion of 13-7-6-6-6-6-6-6-7-7-7-6-7; antennal ratio 0.66. Palpus with second and third segments stout; lengths of segments in proportion of 5-14-16-10-11. Mandible (fig. 1e) with ten coarse teeth.

Thorax: Dark brown. Mesonotum convex, broad anteriorly, with vestiture of short pubescence, four pairs os strong supraalar setae. Legs stout, especially hindfemur; brownish with obscure pale bands on proximal 0.6 of fore and midfemora, base of foretibia and subapically on all tibiae; tarsi whitish except fifth tarsomeres brown; forefemur without ventral spines; legs otherwise with short, fine setae only; hindtarsal ratio 2.0; ventral palisade setae absent on foretarsus, in one row on tarsomeres 1 and 2 of midleg, and in two rows on tarsomeres 1 and 2 of hindleg; fourth tarsomeres cordiform; fifth unarmed; claws strong and curved, each with basal barb on inner side extending to midlength. Wing (fig. 1g) infuscated, especially on anterior portion, anterior veins dark brown; costal ratio 0.82. Halter with pale stem and brown knob.

Abdomen: Brown, with sparse vestiture of short, semi-appressed setae. One pair of very short, brownish gland rods. Eighth sternum with a pair of glabrous round areas similar to those figured by Clastrier (1962) and Remm (1974) for the paleartic species *B. fascispinosa* Clastrier. Spermathecae two, dark brown, short ovoid with very short necks; unequal, measuring 0.062 by 0.054 mm and 0.058 by 0.045 mm including necks.

Male. Wing length 1.62 mm; breadth 0.50 mm.

Similar to the female with the usual sexual differences; setose vestiture of legs and abdomen coarser and more erect; wing not as strongly infuscated. Antenna (fig. 1a) with sparse plume of long brownish verticils; lengths of flagellar segments in proportion of 15-6-6-6-6-6-6-6-8-9-8-7; lengths of segments very much as in female; antennal ratio 0.66. Palpus (fig. 1d) as in female. Palisade setae of tarsi absent on fore and midlegs; in two rows on basitarsus of hindleg, and in one row on second tarsomere of hindleg. Wing (fig. 1b) with costal ratio 0.73. Genitalia (fig. 1c) typical of subgenus *Bezzia* but ninth sternum with especially deep caudomedian excavation, and ninth sternum with especially deep caudomedian excavation, and ninth tergum elongate with prominent cerci; basistyle short and broad, simple; dististyle stout, tapering to bluntly pointed tip; aedeagus triangular as usual, basal arch low, the distomedian process long and slender with ventral surface spiculate; parameres fused in a clavate median process extending caudad to level of apices of basistyles.

Pupa. Length of female 5.90 mm; length of male 4.35 mm.

Brownish. Respiratory horn (fig. 2a) 4.4 times as long as greatest breadth, surface smooth; distal third with a convoluted row of 44-56 spiracular papillae. Female operculum (fig. 2b) 1,35 times broader than long, anterior end rounded; grooved midway on lateral margins; spiculate in midportion with three tubercles on each side, the posterior one bearing a small seta. Male operculum (fig. 2 c) as in female but only 1.14 times as broad as long, spinules stronger and more numerous. Terminal segment of female abdomen (fig. 2 d) 1.25 times as long as basal breadth, covered with numerous spinules. Terminal segment of male (fig. 2e) 1.35 times as long as broad, with a mesal band of spinules and tubercles laterally; apicolateral processes more divergent, also spinulose; ventral sexual processes slightly wrinkled and tightly appressed.

Larva. Head capsule 3.4 times longer than broad; eyes well developed; setae minute and poorly visible. Terminal segment (fig. 2f) about five times as long as broad, posterior end with two pairs of long and one pair of short setae, the longer setae 0.66 as long as segment.

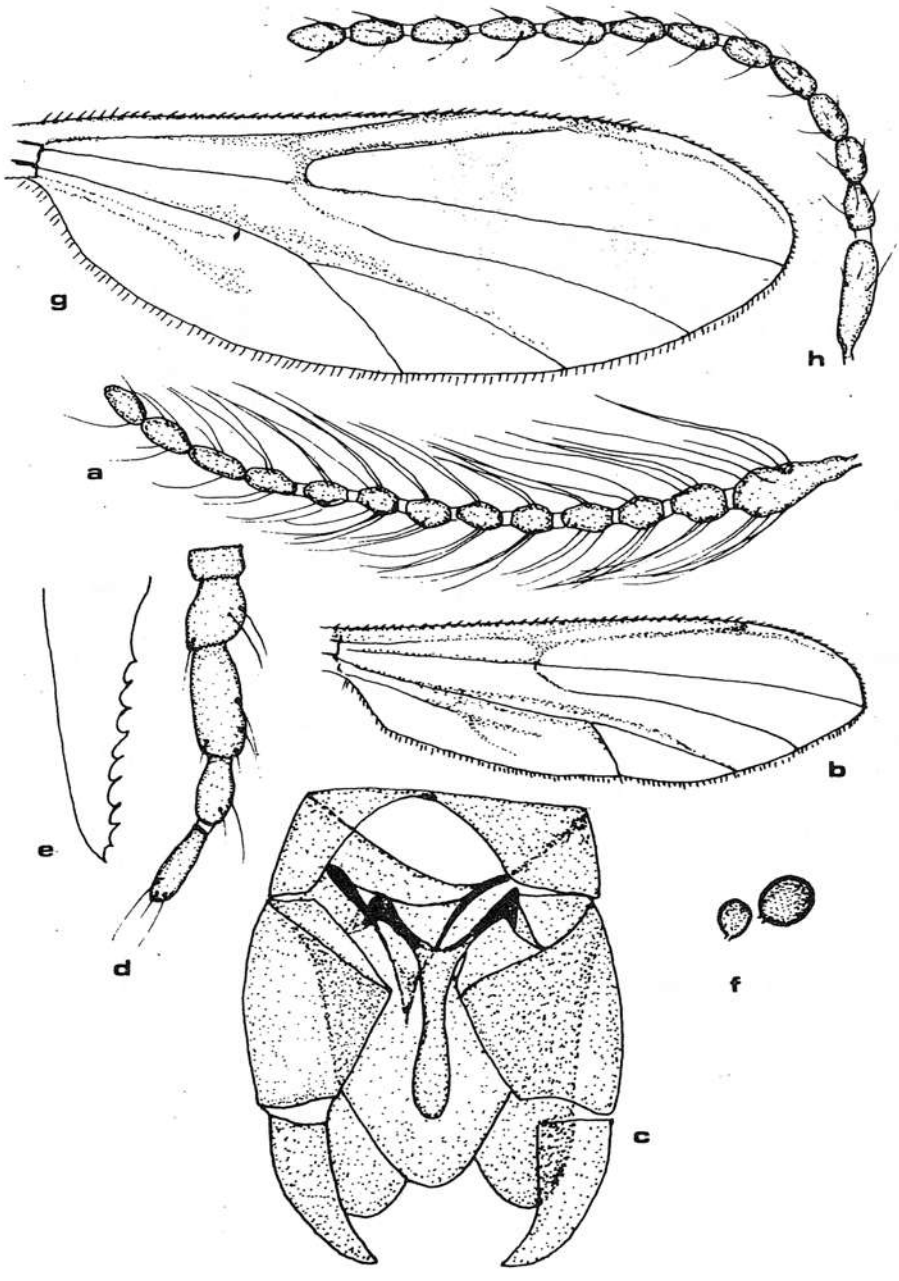

Fig. 1. *Bezzia roldani;* a—d, male; e—h, female, a, h, antennal flagellum; b, g, wing; c, genitalia; d, palpus; e, mandible; f, spermathecae.

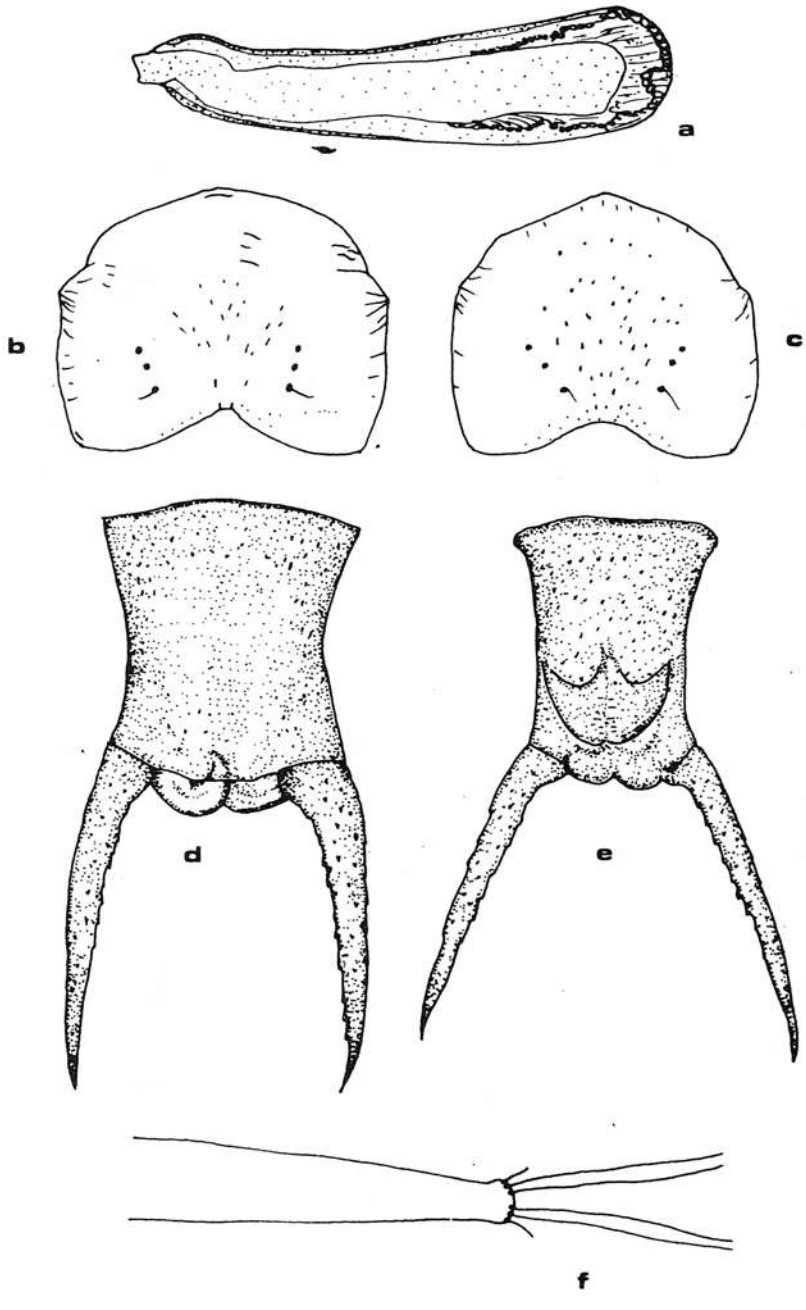

Fig. 2. *Bezzia roldani;* a—e, pupa; f, larva. a, respiratory horn; b, female operculum; c, male operculum; d, terminal segment of female; e, same, male; f, terminal segment of larva.

Distribution. Argentina.

Types.• Holotype female, allotype male, paratypes 10 males and 19 females: Laguna de Chascomús (Partido de Chascomús, Prov. de Buenos Aires, Rep. Argentina, 20 August and 12 September 1979, G. R. Spinelli (types deposited in Istituto de Limnología, Museo de La Plata). These specimens were collected as larvae and pupae and the adults reared.

Discussion. This is the first published record of the genus *Bezzia* for Argentina. The species is named for Carlos Roldán, of the Instituto de Lomnología, Museo de La Plata *B. roldani* is closely related to *B. pulchripes* Kieffer from Paraguay and Brazil, but as redescribed by Wirth (1959) the latter differs in its smaller size, in the proportions of the antenna, its witish wing, longer gland rods, and longer necks on the spermathecae. According to Mayer (1959) the pupa of *pulchripes* has 32 spiracular openings on the respiratory horn, compared with 44-56 in *roldani.*

Biology. The larvae and pupae of *B. roldani* are normally found associated with floating aquatic vegetation forming the "pleuston community". They are found mainly in the submerged parts of duckweeds of the family Lemnaceae, such as *Lemna, Wolffia, Wolfiella,* and *Spirodela* spp.

RESUMEN: Una nueva especie de mosca de agua predatora, *Bezzia roldani,* es descripta en todos sus estados para la República Argentina. Las larvas fueron encontradas en el pleuston de la Laguna de Chascomús.

SUMMARY: A new species of predaceous midge, *Bezzia roldani,* is described in all stages from Argentina. The larvae are found in the submerged parts of duckweeds in the Laguna de Chascomús.

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